



Creating floodplains and wetlands as flood defences, a practical approach? Examples from the Netherlands and the Mississippi Delta, New Orleans

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In heavily populated delta's, extend of natural areas and natural values are impacted through crowding of urbanization and economic activities in limited available space. Maintaining safety from flooding requires continuous efforts. Sea level rise and climate change will lead to increased efforts in defense against flooding in the low lying areas. Traditional engineering approaches optimize for safety and are suboptimal for providing other functions. As space in the delta is limited, new solutions for the new challenges are sought by Dutch Government, that are robust, sustainable, flexible and that combine multiple functions.

Researchers in the Netherlands have been exploring new concepts that maintain safety, by creating 'green' solutions that integrate nature building and engineering. This has resulted in practical applications that are cost-effective. Implementation has shown that upscaling and embedding in standard management and engineering practices is hampered by limitations in organizational and funding structures, clash with environmental regulations, lack of adequate proofing protocols, ecosystem characteristics. More in depth knowledge to further improve quality and predictability of 'green' designs is needed..

At present focus is shifting to translation of concepts, data and experience from pilots into regulations, guidelines, manuals and design protocols to facilitate the transfer into the mainstream of maintenance and construction of sea defense infrastructure.